

## Background Document

### Eco Impact Checklist

<b>Title of report:</b> Clean Bus Technology Fund
<b>Report author:</b> Jacob Pryor
<b>Anticipated date of key decision:</b> Cabinet 5th December 2017
<b>Summary of proposals:</b>
<p>1. On the 11th September government announced £30m of funding available to Local Authorities (LA's) to support the retrofitting of older, more polluting buses in order to bring them up to the latest environmental standards. The maximum funding available per LA is £1.5m in 17/18 and £1.5m in 18/19: £3m in total.</p> <p>2. The objective of the grant is to improve air quality through deployment of one, or a combination, of Selective Catalytic Reduction Technology, Diesel/Electric Hybridisation and/or Full Electric Conversion. Depending on the level of interest from local operators (and their preferred technology option), the grant provides an opportunity to improve 30-180 buses across the region.</p> <p>3. The technologies work and perform in different ways but chiefly target &gt;90% reduction in NOx and PM which are recognised as health-harming air pollutants. Evidence of the effectiveness of these technologies has been strengthened by the government's recently published Clean Vehicle Retrofit Accreditation Scheme which provides a robust means for testing the emission reduction claims of the various suppliers.</p> <p>4. Bristol's bus fleet accounts for approximately 23% of NOx emissions and so cleaning up the most polluting services is essential in meeting our air quality targets. Currently only approx. 1/7th of the buses operating in the West of England meet the most stringent environmental standards (Euro 6).</p>

Will the proposal impact on...	Yes/ No	+ive or -ive	If yes...	
			Briefly describe impact	Briefly describe Mitigation measures
Emission of Climate Changing Gases?	Y	+ve	Some technology options provide a fuel saving (i.e. diesel/hybrid conversion and full electric conversion). In terms of operational/tailpipe CO2 savings, a diesel/hybrid conversion will provide approx. 40% fuel savings. For full electric conversion there will be 100%	

		-ve	tailpipe CO <sub>2</sub> savings over a conventional diesel bus.  Some technology options such as Selective Catalytic Reduction Technology (SCRT) impose a small fuel efficiency penalty through use of a particulate filter. The government's review of retrofit technologies shows a 3-5% increase in CO <sub>2</sub> post retrofit.	Transport officers will encourage operators to explore retrofit technologies that don't increase CO <sub>2</sub> emissions. However, this must be balanced against the technological/compatibility limitations associated with Diesel/Hybrid and Full Electric Conversion which may not be feasible options for all operators.
Bristol's vulnerability to the effects of climate change?	Y	-ve	Installation of SCRT systems will incur a minor CO <sub>2</sub> penalty but this will not necessarily increase the city's vulnerability to climate change.	
Consumption of non-renewable resources?	Y	-ve	See above.	
Production, recycling or disposal of waste	N/A			
The appearance of the city?	N/A			
Pollution to land, water, or air?	Y	+ve	All of the retrofit technologies options reduce the impact of health-harming air pollutants.  Specifically NO <sub>x</sub> and PM emissions are reduced by all technology options from between 75-100% respectively.	Vehicles likely to use routes through the Air Quality Management Area (AQMA), and buses complying with older Euro standards should be prioritised, to maximise the benefits.
Wildlife and habitats?	N/A			

**Consulted with:**

## **Summary of impacts and Mitigation - to go into the main Cabinet/ Council Report**

The proposals are expected to be mainly beneficial, reducing Nitrogen oxides (NOx) and particulate (PM) emissions by at least 75%, depending on the retrofit technology used and the age of the vehicles being retrofitted. If the routes used by the retrofitted vehicles go through the Air Quality Management Area, the relative benefits will be greater. If Selective Catalytic Reduction Technology is used, it is likely to increase carbon emissions slightly, which puts it in conflict with the citywide carbon reduction target for 2020. However, the NOx emissions from traffic are a significant health and local pollution hazard in UK cities, so the likelihood is that the benefits from significantly reducing NOx emissions from buses will outweigh slight increases in carbon emissions.

### **Checklist completed by:**

Name:	Jacob Pryor
Dept.:	Place
Extension:	0117 922 1242
Date:	06/10/2017
Verified by	Giles Liddell, Environmental Performance Team, with air quality advice from Andrew Edwards, Sustainable City and Climate Change Team